

SHORT COMMUNICATION

Lindsaea terrae-reginae, a new fern species from Queensland

When the account of the genus *Lindsaea* for Australia and New Zealand was published (Kramer & Tindale 1976), a specimen was cited at the end of the treatment of *L. obtusa* with the remark that it differed in a number of respects and might represent an undescribed species. During a visit to the National Herbarium of New South Wales, Sydney, in October 1986, the author examined the specimen again and found a second specimen that obviously represented the same taxon. This seemed to indicate that a truly distinct species was involved, which is here described as new, in anticipation of a treatment of the genus for the 'Flora of Australia'.

Lindsaea terrae-reginae Kramer, spec. nova

Rhizoma brevissime repens; folia aggregata, simpliciter pinnata, sursum et deorsum angustata; pinnulae dimidiatae, superiores et (paucae) inferiores reductae, inferiores remotae; venae reticulatae; pinnulae integrae, soris continuis; indusium c. 0.3–0.4 mm latum, valde intramarginale sicut receptaculum. Sporae triletae.

TYPE: QUEENSLAND: S. slopes of W. ridge of Thornton Range, above 1000 m, 16°10'S 145°23'E, *P. Hind 2447 B*, August 1979 (NSW, holotype; isotype in BM, not seen).

Rhizome very short-creeping, c. $\frac{2}{3}$ –1 mm diam., reddish brown; scales minute, fawn-coloured, lanceolate, c. 0.4 mm long, 2 or 3 cells wide at base, soon shed, a few similar scales present on the petiole base. Petioles clustered, stramineous with the extreme base reddish brown, slender, c. $\frac{1}{2}$ mm diam., adaxially narrowly sulcate, abaxially bi-angular and very shallowly sulcate, c. 5–14 cm long, half as long as to about as long as the lamina. Lamina thinly herbaceous, dark olivaceous when dry, narrowly lanceolate to linear, narrowed to both ends but more strongly so towards the apex, simply pinnate, up to 18 x 2.2 cm, with up to c. 25 pinnules to a side; rachis like the petiole, slender. Middle and upper pinnules spreading or the upper ones slightly ascending, their width apart to (the upper ones) contiguous; lowermost pinnules remote and sometimes slightly deflexed. Major pinnules 4 x $2\frac{1}{2}$ –12 x 5 mm, dimidiate-ovate to subrhombic, obtuse to very obtuse, when fully fertile entire except for the subundulate-erose anterior margin, the latter evenly, or outward increasingly, convex; posterior margin straight or, especially in lower pinnules, concave. Upper pinnules gradually and strongly, evenly reduced, the uppermost denticuliform, confluent; basal pinnules remote and reduced, c. 3 x $2\frac{1}{2}$ mm, often sterile and then crenate on the anterior margin. Veins rather lax, reticulate, the basal portion of a pinnule with one or two series of elongate-hexagonal arcole between posterior margin and receptacle, the larger arcole 1 mm wide. Sori in fully fertile pinnules continuous, strongly intramarginal, the receptacle $\frac{1}{2}$ –1 mm from the margin. Indusium pale, subentire, 0.3–0.4 mm wide, its edge falling short of the margin by roughly the width of the indusium. Spores trilete, tetrahedral, medium brown, almost smooth, c. 18 x 26 μ m. Fig. 1.

OTHER SPECIMEN SEEN: Mt. Sturgeon, Cook Distr., *C.T. White 10533*, Sept. 1937 (BRI, GH).

The type collection bears the ecological data, 'occasional in deeply shaded and high humidity locations in rainforest, on tree roots and under rocks, base of granitic boulders, on clayey soils'.



Fig. 1. *Lindsaea terrae-reginae* Kramer. A, lamina (apex missing) (X 1). B, detail of lamina (X 6). (Both from holotype.)

Although clearly a member of section *Synaphlebium* close to *Lindsaea obtusa* J. Smith in Hooker, this species does have some characters of *L. brachypoda* (Baker) Salomon of section *Paralindsaea*: a basally reduced lamina (as in the sterile leaves of *L. brachypoda*) and continuous sori. The possibility of hybrid origin was considered, but the (very few) spores remaining in the available material (some found in the sporangia) are well-developed and not so large in comparison with those of the other two species that it might be considered an allotetraploid hybrid. Both *L. obtusa* and *L. brachypoda* occur in the area where *L. terrae-reginae* was collected.

In Kramer & Tindale (1976) it will key out to *L. obtusa* but is readily distinguished from that species by continuous sori and particularly by the reduced and remote basal pinnules, unique in the Section. The suggestion given there that this may be Domin's 'var. *contigua*' must be rejected, as that was described as having partly bipinnate leaves of firm texture and as no mention was made of basally reduced pinnules.

The author is much indebted to Dr Mary D. Tindale, Sydney, for drawing his attention once more to this evidently undescribed species; to the Directors and Curators of NSW and BRI for hospitality extended to him and for the loan of material; and to Mr A. Zuppiger, Zürich, for preparing the illustrations.

Reference

- Kramer, K.U., & Tindale, M.D. (1976) The Lindsaeoid ferns of the Old World VII. Australia and New Zealand. *Telopea* 1(2): 91-128, 4 pl.

Manuscript received 11 June 1987

Manuscript accepted 21 August 1987

K.U. Kramer
Institute for Systematic Botany
University of Zürich
Switzerland